
Modular Training Standards

Operate Mechanized Rock Bolter

Program #770010

General Services Specialties Group
Module U0018

Ministry of Training,
Colleges and Universities

Modular Training Standards

Operate Mechanized Rock Bolter

Program #770010

**General Services Specialties Group
Module U0018**

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This document is the property of the trainee/
employee named inside and represents the
official record of his/her training.

OPERATE MECHANIZED ROCK BOLTER

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TRAINING UNIT

TRAINING TITLE UNIT

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**AREAS OF
COMPETENCY**

4

**COMPETENCY ANALYSIS PROFILE
OPERATE MECHANIZED ROCK BOLTER
ON-THE-JOB TRAINING STANDARDS
~SKILLS~**

OPERATE MECHANIZED ROCK BOLTER U0018.0	Identify and respond to workplace hazards. 0018.01	Inspect and scale workplace. 0018.02	Extend services. 0018.03	Perform pre- operational checks on rock bolter carrier. 0018.04	Start up rock bolter carrier. 0018.05
	Conduct operational checks on rock bolter carrier 0018.06	Operate rock bolter carrier. 0018.07	Prepare back/walls for drilling. 0018.08	Position rock bolter carrier. 0018.09	Perform pre- operational checks on drill. 0018.10
	Drill back/walls. 0018.11	Secure ground. 0018.12	Tear down and store drill equipment. 0018.13	Shut-down rock bolter drill carrier. 0018.14	

PREFACE

This training document was developed by the Program Development and Standards Unit of the Ministry of Training, Colleges and Universities, in consultation with representatives from the Underground Hard Rock Mining industry. These Training Standards are intended to be used by trainee, trainers/instructors and companies as a "blueprint" for training or as a prerequisite for government accreditation/certification. While this training document is intended as guidelines for training, all issues might not apply in all operations.

A Basic Underground Hard Rock Miner (entry level) is a worker who has achieved accreditation in the entire Common Core Program # 770010. The Mining Tripartite Committee recommends that the employer must provide training in the entire common core for the Basic Underground Hard Rock Miner Training Program, to the worker, within the first year of employment. The prerequisite common core and specialty modules related to a specialty module must be taken before training in the specialty module, e.g Jumbo Drill *NOTE: To be trained and accredited in this module, the prerequisite modules from Program #770010 are U0000, U0001, U0002, U0004, U0006 and U0011. The other prerequisite modules, where applicable, are U0005, U0007, U0014, U0015 and U0082.* Employers have a responsibility to train workers for the work to be done.

The first three modules of Program #770010 - U0000, U0001 and U0002 are prerequisites to all other modules for the program. They must be completed before any other modules can be done and before the employee can be permitted to work underground.

Under the Occupational Health & Safety Act - R.R.O. 1990 Regulation 854, 11.3 there is an allowance for the recognition of equivalent training from other jurisdictions to Ontario training. Based on a comparison of the two programs, the Mining Tripartite Committee has deemed Quebec's Formation Modulaire du Travailleur Minier (FMTM) program to be equivalent to Ontario's Program #770010 Common Core except for specific mine orientation (U0000, Follow Surface and Underground Induction Procedures) and secondary blasting (U0006, Blast Rock). Employers should contact their local apprenticeship office for details about the requirements associated with these equivalencies.

New trainees or experienced miners must obtain accreditation in the same way. Each must demonstrate the skills specified in each Performance Objective to the described minimal acceptable standard as prescribed in each module. These demonstrations must be administered in an operating mine by a trainer designated by the company who shall follow the Performance Demonstration Guidelines approved by the Mining Tripartite Committee.

The care and maintenance of this book is the joint responsibility of the trainee and the employer. The Training Standards were developed specifically for documenting the trainee's acquisition of skills.

OPERATE MECHANIZED ROCK BOLTER

PREFACE - Cont'd

Areas of the Basic Underground Hard Rock Common Core including mechanical staging, drilling, rock bolting, and mucking may infringe on some speciality modules for purposes of safety and technological changes. However, accreditation in these areas of the Common Core is not intended to replace accreditation in the speciality modules.

Throughout the document the term "including" is often used. "Including" means : one or more of the items listed, but not limited to those items included in the list.

N.B. Re: Lock out and /or tag, where it is practical or possible to lock, then locking and tagging should be the norm.

NOTICE/DECLARATION FOR COLLECTION OF PERSONAL INFORMATION

1. This information is collected under the authority of the Order-In-Council Number 701/85.
2. The information is collected for the purpose of administering this modular training program within the Province of Ontario.
3. Questions regarding collection and use of this information may be directed to:

Director of Apprenticeship
Workplace Training Branch
Ministry of Training, Colleges and Universities
900 Bay Street
17th Floor
Toronto, Ontario
M7A 1L2
(416) 326-5605

IMPORTANT DIRECTIONS TO TRAINERS

Trainers instructing workers in the specialty modules for Program 770010 must meet the Trainer Qualification and Criteria Guidelines for Program #770010. They must be accredited in the Basic Common Core Underground Hard Rock program #770010 and the specialty module they will be instructing. Contact your local apprenticeship office for a copy of the Trainer Qualification and Criteria Guidelines.

The Training Standards identify skills required for this occupation and its related training program.

These Training Standards have been written in concise statements which describe how well a trainee must perform each skill in order to become competent.

In using these Training Standards, trainers will be able to ensure that the trainee is developing skills detailed for the occupation.

Trainers and trainees are required to sign off and date the skills following each successful acquisition.

Employers participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement in the space provided at the end of each unit.

IMPORTANT DIRECTIONS TO THE TRAINEE

Trainee

1. It is the responsibility of the trainee to inform the local Apprenticeship Client Services office regarding the following changes:
 - change of trainee name or address;
 - transfer to a new employer;
2. Training Reports must be signed for modular trainees by a Ministry of Training, Colleges and Universities designated Signing Authority and forwarded to a local Apprenticeship Client Services office.
3. At the completion of training, the Trainee Completion Form must be completed and signed off by the Signing Authority and submitted to local Apprenticeship Client Services office.

OPERATE MECHANIZED ROCK BOLTER

UNDERGROUND HARD ROCK MINING SPECIALITY MODULES LISTING BY GROUPS

GROUP 1 **PRODUCTION SPECIALTIES**

U0051 Perform Non-Mechanized Room and Pillar Mining
U0052 Perform Mechanized Room and Pillar Mining
U0053 Perform Shrinkage Mining
U0054 Perform Regular Cut and Fill Mining
U0055a Perform Mechanical Cut and Fill Mining-
Non Captive Stope
U0055b Perform Mechanical Cut and Fill Mining-
Captive Stope
U0056 Perform Square Set Mining
U0057 Perform Under Cut and Fill Mining
U0058 Perform Non-Mechanized Bulk Mining
U0059 Perform Mechanized Bulk Mining

GROUP 3 **HAULAGE SPECIALTIES**

U0015 Maintain Tire and Wheel Assemblies
U0017 Operate Scram Drift
U0019 Perform Track Haulage- Operate
U/G haulage Train Remote Control
U0020 Perform Trackless-Haulage Operate
Scoop Tram-Remote Control
U0023 Operate Front-End Loader
U0067 Perform Track Haulage- Operate
U/G Haulage Train

GROUP 2 **DEVELOPMENT SPECIALTIES**

U0016 Perform Non Mobile-Trackless Drifting
U0060 Perform Mobile Drifting
U0061 Perform Non-Mobile Track Drifting
U0062 Perform Conventional Untimbered Raising
U0063 Perform Conventional Timbered Raising
U0064 Perform Mechanized Raising
U0065 Perform Drop/Inverse Raising Mechanized/NonMechanized
U0066a Perform Shaft Sinking- Timber Lining Installation
U0066b Perform Shaft Sinking- Concrete Lining Placement
U0066c Perform Shaft Mucking
U0066d Perform Shaft Drilling and Blasting

GROUP 4 **DRILLING AND BLASTING SPECIALTIES**

U0069 Operate Non-Mechanized Long Hole Drill
U0070 Operate In-The-Hole Drilling
U0072 Operate Raise Bore Drill
U0089 Operate Mechanized Jumbo Drill
U0090 Operate Mechanized Long Hole Drill
U0092 Perform Mobile Bulk Blasting
U0093 Perform Non-Mobile Bulk Blasting

OPERATE MECHANIZED ROCK BOLTER

GROUP 3 **HAULAGE SPECIALTIES - cont'd**

U0068a Perform Trackless Haulage-Operate Scoop Tram Draw Point
U0068b Perform Trackless Haulage-Operate Scoop Tram Production/Development
U0091 Operate Haulage Truck

GROUP 5 **GENERAL SERVICES**

U0013 Operate Lifting Mechanism(s)
U0014 Operate Forklift
U0018 Operate Mechanized Rock Bolter
U0021 Operate Bulldozer
U0022 Operate Grader
U0024 Operate Utility Vehicle
U0025 Operate Mechanized Muck Conditioner
U0026 Operate Mechanized Cable Bolter
U0027 Operate Non-Mechanized Cable Bolter
U0028 Operate Scissor Lift
U0029 Operate Rock Breaker
U0033 Operate Oxyacetylene Cutting Equipment
U0035 Operate Backhoe
U0036 Operate Overhead Crane
U0074 Operate Mine Hoist- Friction or Drum
U0075 Install and Maintain Track System
U0076 Perform Fill Placement
U0077 Operate Underground Crusher
U0078 Operate Underground (Filter) Decantation System
U0079 Operate Conveyor
U0080 Install and Maintain Underground Pipe System
U0081 Operate Tipple
U0082 Install and Maintain Underground Ventilation Equipment

GROUP 6 **SHAFT SERVICES**

U0083 Operate Cage
U0084 Perform Shaft Maintenance
U0088 Operate Skip

GROUP 7 **CONSTRUCTION SERVICES**

U0085a Construct Concrete Installations
U0085b Construct Timber Installations
U0085c Construct Steel Installations
U0086 Perform Shotcreting

OPERATE MECHANIZED ROCK BOLTER

TRAINEE COMPLETION FORM

Trainee Name

Print

Signature

Social Insurance Number

The Training Unit, when completed, should be Signed off by Trainer/ Signing Authority below. Submit required documentation to your local Apprenticeship Client Services office. Any supporting documentation should also be attached.

Employer Name:

Address:

Telephone:

Signing Authority:

Signature

TRAINING UNIT COMPLETION FORM

**TRAINING TITLE
UNIT**

SIGNING AUTHORITY

U0018 Operate Mechanized Rock Bolter

OPERATE MECHANIZED ROCK BOLTER

U0018.0 OPERATE MECHANIZED ROCK BOLTER

GENERAL PERFORMANCE OBJECTIVE

Set up and operate mechanized rock bolter drill, by identifying and responding to workplace hazards; inspecting and scaling workplace; extending services; performing pre-operational checks on rock bolter carrier; starting up rock bolter carrier; conducting operational checks on rock bolter carrier; operating rock bolter carrier; preparing back/walls for drilling; positioning rock bolter carrier; performing pre-operational checks on drill; drilling back/walls; securing ground; **tearing** down and storing drill equipment; **and** shutting down rock bolter **carrier** according to government legislation, company standards and manufacturer specifications.

NOTE :To be trained, and accredited, in this module the prerequisite modules from Program #770010 are U0000, U0001, U0002 , U0003, U0004, U0005, U0006, U0007 and U0011 . Other prerequisite modules where applicable are U0015, U0024, U0028, U0089.

PERFORMANCE OBJECTIVES

Trainer's Name (Print)

Trainee's Name (Print)

SKILLS

- 0018.01 Identify and respond to workplace hazards, including: ground conditions, ventilation, open holes above/below, and housekeeping, by isolating area and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.02 Inspect and scale workplace, by selecting scaling bar for the specific job based on type, size and condition; fastening and connecting hoses; washing down area; setting water flow to control dust; performing scaling procedures; checking ventilation flow; and taking corrective action and/or reporting according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

OPERATE MECHANIZED ROCK BOLTER

U0018.0 OPERATE MECHANIZED ROCK BOLTER - cont'd

- 0018.03 Extend services, including: air, water, power, ventilation, and communication lines, by bleeding air and water lines; flushing and installing headers; fastening, securing, hanging and supporting services; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.04 Perform pre-operational checks on rock bolter carrier, by testing power source; checking fluid levels; following refueling and lubricating procedures; inspecting principle components, including: guardrails, steps and handrails; cab, chassis and canopy, engine/power source, power train, controls, booms, hoses, jacks, carousel, wheel chocks, cable reel, trailing cable, lighting, warning and communication systems; visually inspecting fire extinguishers and fire suppression systems; checking pins and nozzles; inspecting tire and wheel assemblies; inspecting/testing braking systems; using 3 point contact while mounting and dismounting; locking out and/or tagging machine; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.05 Start up rock bolter carrier, by activating power source; using audible warning systems and signals; observing equipment operation, gauges and load limits; checking for clearances and activity in area; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

OPERATE MECHANIZED ROCK BOLTER

U0018.0 OPERATE MECHANIZED ROCK BOLTER - cont'd

- 0018.06 Conduct operational checks on rock bolter carrier, by monitoring gauges and meters, including: oil and air pressure, lights, warning and communication systems, temperature, alternator output, transmission and torque pressure; listening for unusual noises in engine/power train; placing booms in travel position; inspecting steering; testing brakes; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.07 Operate rock bolter carrier, by ensuring clearances and clear machine path; complying with speed limits, traffic signs and signals; selecting gears for ramps; posting signs or lights; watching for pedestrian traffic; using fall protection, including: fall arrest or travel restraint systems; maintaining road ways; ensuring required ventilation; noting direction of ventilation flow and position of ventilation/fire doors; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.08 Prepare back/walls for drilling, by blowing/flushing lines; connecting air and water hoses; washing back/walls; scaling loose rock; cleaning and marking bootlegs, using non-sparking materials; applying procedures for handling **misholes**; controlling drainage; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

OPERATE MECHANIZED ROCK BOLTER

U0018.0 OPERATE MECHANIZED ROCK BOLTER - cont'd

- 0018.09 Position rock bolter carrier, within designated work area, by setting park brake; lowering stabilizer jacks; positioning wheel chocks; locking out and/or tagging; and repairing and /or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.10 Perform pre-operational checks on drill, with controls in off position and air and water headers open, by inspecting drill components, including: booms, boom cylinders, pins and hoses; draining air systems and compressors; inspecting proximity switches; checking emergency stop button; inspecting remote drive system; inspecting operator drill platform or basket and console; inspecting drill steel, drill steel centralizer; limit switches, pendant and carousel; inspecting cable reels/spools and trailing cable; filling lubricators; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.11 Drill back/walls, by collaring hole and drilling to pre-determined depth and pattern; checking bootlegs; performing secondary scaling; monitoring general condition of drill, including: lubrication, hoses and controls; ensuring sound footing; using personal protective equipment; identifying/avoiding pinch points; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.12 Secure ground, by identifying and responding to workplace hazards; inspecting and scaling back/walls; operating and maintaining drill(s); installing ground support; **inspecting torque pressure, rotation, hole size and preset shells**; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

OPERATE MECHANIZED ROCK BOLTER

U0018.0 OPERATE MECHANIZED ROCK BOLTER - cont'd

- 0018.13 Tear down and store drill equipment, by shutting off and bleeding air and water lines; disconnecting air and water hoses; shutting off power; performing post-operational checks; completing reports; storing/securing drilling equipment in designated/approved areas; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

- 0018.14 Shut-down rock bolter drill carrier, by bleeding lines; positioning jacks; disconnecting power cables; placing booms in travel position; applying wheel chocks; parking in designated/approved area; performing post-operational checks; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

Employer's Name

Employer's Signature
